Hudson River PCBs Site

Engineering Performance Standards For Dredging

Presentation to Peer Review Panel

Malcolm Pirnie, Inc.
TAMS, *an EarthTech Company*

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Introduction

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Introduction to the Standards

- Mission
- Approach
- Document Tour

The Mission

Address public concerns about dredging by developing standards that:

- Will be enforceable
- Promote accountability
- Are based on objective criteria
- Ensure cleanup meets ROD objectives

(USEPA 2002 ROD)

Remedial Objectives

- Reduce risks and hazards to people eating fish
- Reduce risks to ecological receptors
- Reduce PCB levels in surface water
- Reduce bio-available PCBs
- Minimize long-term downstream transport of PCBs

Performance Standards Goals

- Protect Public Water Supplies
- Protect Downstream Water Quality
- Promote Fish Recovery
- Achieve Residual ~ 1 mg/kg Tri+ PCBs
- Keep Dredging Program on Schedule
- Achieve Long-Term Remedy Benefits

Three Required Standards

- Resuspension
- Residuals
- Productivity

Challenges

- Domain of Standards vs. Design
- Appropriate Level of Prescriptiveness
- Simplicity vs. Comprehensiveness and Flexibility
- Interrelationships Among Standards
- Competing Public Concerns
- Popular Misconceptions

Public Concerns

- “Do more harm than good”
  - *Remedy should be more aggressive*
- Duration much longer than stated
  - *Protection over schedule*
- River navigation will suffer
  - *Methods should be dictated*
- Residents’ quality of life will deteriorate
  - *Drinking water is at risk*

Development Philosophy

Flexible Standards…

Protection

Production

Natural Tension

Expeditious dredging leads to more rapid resource recovery (productivity)

Controlling dredging releases avoids impacts to the resource (resuspension)

Certifying post-dredging concentrations achieves compliance with ROD objective (residuals)

For Each Standard

- Establish solid technical basis
- Test to ensure
  - Project objectives met
  - Practicable application
    - Not overly burdensome
    - Encourage quality management

Project Team

USEPA Region 2 - Lead Agency
USACE, Kansas City District - Mission Contractor
Malcolm Pirnie, Inc. - Prime Consultant
Earth Tech / TAMS
Don Hayes, PhD, PE, University of Utah

Project Leaders

Ed Garvey, PhD, PG - Resuspension
Neven Kresic, PhD, PHG - Residuals
John Mulligan, PE - Productivity
Don Hayes, PhD, PE - Technical Consultant

Quality Review Team

- Ken Goldstein, CGWP *(contaminant fate & transport, geostatistics)*
- Michael Palermo, PhD, PE *(remediation of contaminated sediments, management of dredged materials)*
- Jon Butcher, PhD, PH *(modeling, PCB chemistry, geostatistics)*
- Greg Hartman, PE *(dredging implementation)*
- Bill Stasiuk, PhD, PE *(water supply, human health)*

Four Volumes

Part 1	*Resuspension Standard - Vol. 1*
Part 2	*Residuals Standard - Vol. 2*
Part 3	*Productivity Standard - Vol. 3*
Appendix	*Case Studies - Vol. 4*

Document Organization

- Executive Summary
- Introduction

1. Statement of the Standard
2. Technical Basis of the Standard
3. Implementation of the Standard
4. Plan for Refining the Standard
5. References

- Tables, Figures, Attachments

CD-ROM

- Standards Document – Peer Review Copy
- Charge to Peer Reviewers
- Background Documents
  - Public Comment Letters and EPA Responses
  - Charge Questions Suggested by the Public
  - ROD
  - Selected White Papers from the Responsiveness Summary

Conclusions

- Action levels set by Resuspension Standard are protective
- Residual of ~1mg/kg Tri+ PCBs is achievable
- Dredging can be completed in six years while achieving Resuspension and Residuals Standards
- Standards work together to provide a flexible framework for environmentally sound dredging